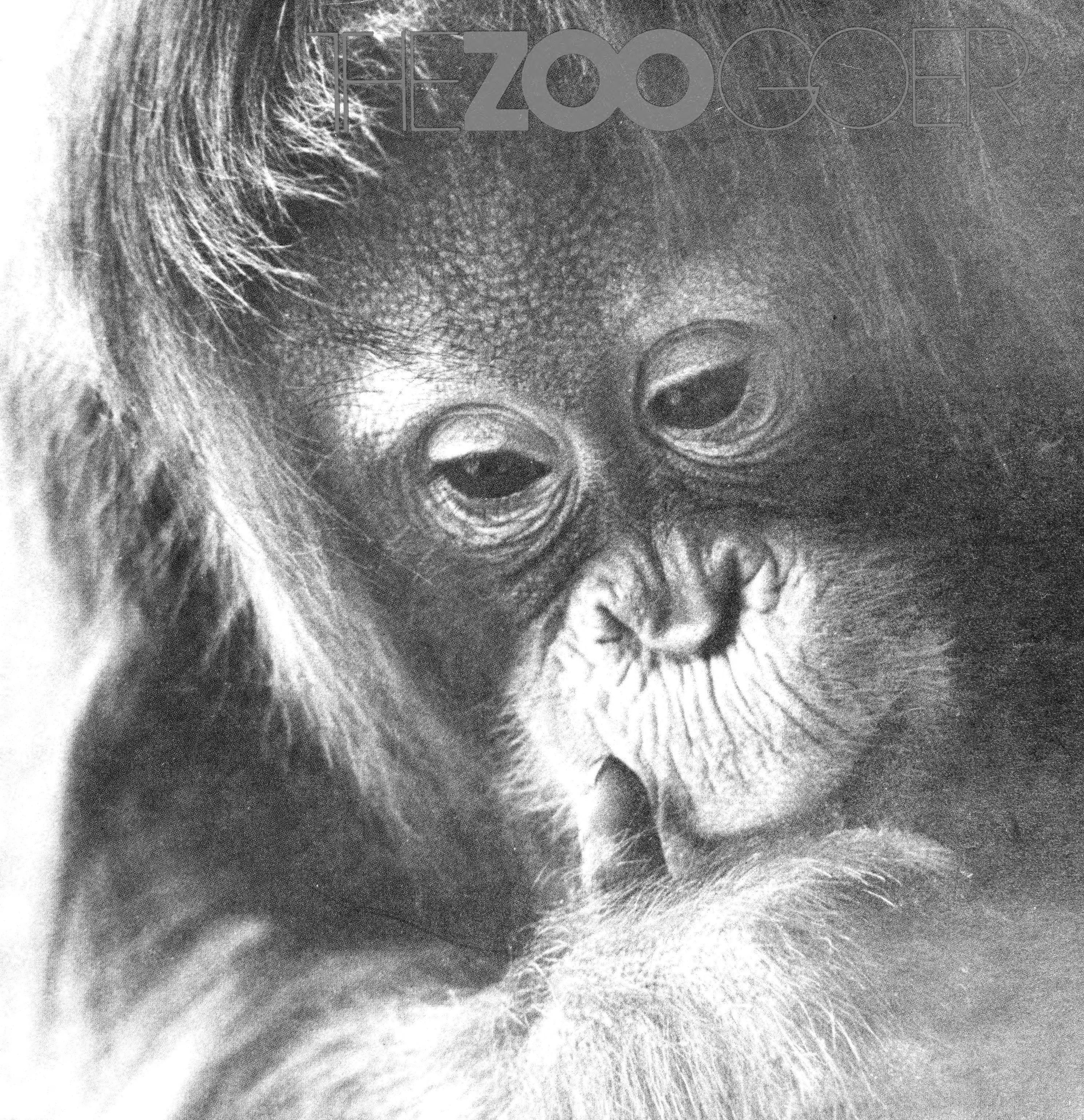


THE ZOO GOER



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Front Cover: Saba, a male orang-utan belonging to the Lincoln Park Zoo, in a pensive moment. Orang-utans are the most solitary of the great apes.

Back Cover: 1979 Junior Zoo Aides John Cox and Emily Moscovitz pose with The Magnificent Atlas Lion and Super Zoodle. The daily, animal-themed puppet shows staged by junior members of FONZ each summer get rave reviews from enthusiastic Zoo audiences.



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The Great Apes

The Great Apes

Saul L. Kitchener
Director, San Francisco
Zoological Gardens

Chimpanzee, gorilla, orangutan—these names conjure visions of dark, steamy rain forests and long lines of head-laden porters leading the white hunter to the hidden land of the vicious, giant, humanoid apes. That's not all fanciful. The great apes do live in heavy rain forests for the most part, and where they live is usually inaccessible. Hollywood may have made up the vicious part, but not the rest.

I think we have always known apes are our closest living relations. Looking at them and watching them behave can lead you to no other conclusion, religious dogma notwithstanding. It is extremely difficult not to anthropomorphize when dealing with the apes, simply because they do look and act somewhat like us—certainly more so than an anteater or a lion, for example.

In 1791, the great French naturalist Buffon put it perfectly when he wrote, "The orang-outang or pongo is only a brute, but a brute of a kind so singular, that man cannot hold it without contemplating himself and without being thoroughly convinced that his body is not the most essential part of his nature."

Apes were not generally known to the West until the 18th and 19th centuries. What were called apes

until then were the Barbary ape of Gibraltar and a host of other monkeys, generally macaques. Just which ape came to the notice of Western civilization first is of little importance, since scientists of that day didn't know which ones they were anyway.

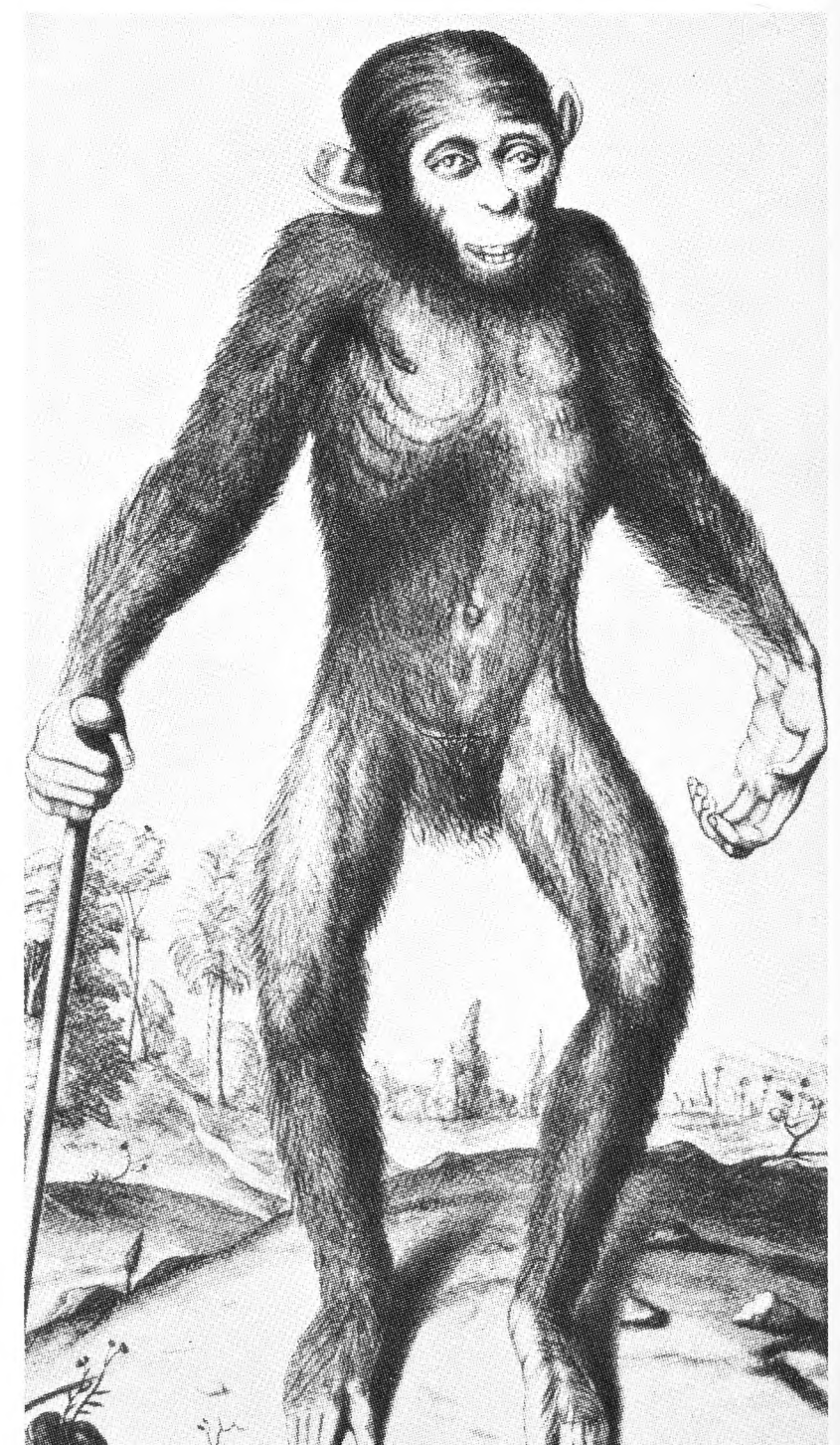
Probably the chimpanzee was the first ape to be described more or less scientifically. Chimpanzees have been known to the West from travelers' accounts since the late 1500s, but to science only since the late 1600s. It appears that an orang-utan was first imported to Europe from Borneo in 1776 by the Dutch East India Company for William V of Holland. It was described by A. Vosmaer in 1776, but he could not distinguish his specimen clearly from the chimpanzee. Chimps and oranges were frequently confused, and, in fact, chimpanzees were called "black ourangs" in the early 1800s.

Gorillas were the last of the apes to be described by science, although tales of giant, hairy women from the west coast of Africa were published long before the scientific description. The classical story of gorillas was given by Hanno, a Carthaginian navigator. He reported an island "full of savage people, the greater part of whom were women, whose bodies were hairy and whom our interpreters called gorillas." Hanno's men chased them and caught three "women," but since the "women could not be prevailed on to accompany us," they were killed and

skinned. Hanno brought the skins to Carthage, since the gorillas were presumed to be another race of people. Little notice was taken of the incident. In fact, Aristotle, to the north in Greece, knew nothing about them a hundred years later. Of course, it is possible that what Hanno saw were chimpanzees, and not gorillas, but his account is usually taken to refer to gorillas.

An English adventurer, Andrew Battell, captured by the Portuguese and sent to West Africa by them, apparently saw both gorillas and chimps in the late 1500s. He described the gorilla as "pongo," which

"Chimpanzees have been known to the West from travelers' accounts since the late 1500s."



Previous Page: M'Buti, a male chimpanzee, at 10 weeks of age. Chimpanzee babies and human babies are very similar up until the third month.

is supposedly a corruption of the African word "mpongwe." This might not be significant in itself, but it led circuitously to the scientific discovery of the gorilla in 1847 by two American doctors, Thomas S. Savage and Jeffries Wyman. Savage saw a skull of a gorilla in the house of a missionary, and recognized that it was a species new to science. After obtaining more information and further specimens, Savage felt sure his gorilla was the "pongo" of Andrew Battell. Although 250 years had passed, Battell's "pongo" finally achieved scientific respectability.

Chimpanzee

Chimps are undoubtedly the most familiar of the great apes, probably for two main reasons. They have the largest territory of the three, being found across Central Africa as far south as the Congo River and as far east as Lakes Victoria and Tanganyika. I do not know how many square miles this entails, but compared to the small ranges of both the orang and the gorilla, it is considerable. Since the chimps have a larger range, there are probably more of them than there are orangs and gorillas. In addition, coastal West Africa, where a great many chimps are found, was the first part of Africa opened up to the West.

When young, chimps can be trained to do an amazing variety of things. Their personalities, availability, and price are three basic factors that make the chimps the overwhelming favorite for circus acts. Times have changed, but not too



Ham, "the space chimp"

long ago a chimp cost \$250, while a gorilla cost \$5,000 and an orang \$3,000. Obviously, not too many acts could afford the latter two. You still see chimps in circus acts, but they cost considerably more than \$250. Today, a baby chimp probably costs \$1,000, as contrasted to a cost of \$10,000-\$15,000 for a gorilla and \$7,000-\$8,000 for an orang. You can see that chimps are still relatively inexpensive.

Chimps live in smallish family units, are far more predatory than the other apes, and can make and use rudimentary tools. This last fact may come as a surprise to some people, but I don't think anyone who has ever worked with chimps in a zoo is surprised by it.

Perhaps the most famous of all living chimpanzees, Ham, "the space

chimp," has been at the National Zoo since 1963. The 21-year-old male is considered a pioneer explorer in the U.S. Space Program because of his successful journey into space aboard a Redstone rocket in 1961. Ham was given to the Zoo by the U.S. Air Force.

Orang-utans

Whereas chimps can be classed as mercurial, with behavior changing rapidly from moment to moment and an attention span like a child's—not very long—orang-utans are quietly clever and systematic. Chimps are intelligent, but in a showy, almost braggadocio way. Orangs are plodders who stick to things. In zoos, orangs are the champion cage destroyers of all time. After all, they have 24 hours a day to work on it,

and they get the job done because of their tenacity, dexterity, and intelligence. Orangs are second in size to the gorilla—a large male can weigh 350 pounds or more in captivity.

Orang-utan is a Malay word meaning “man of the woods”; orangs were thought by Westerners to be a race of wild men. In fact, early Dutch sailors brought them back to Holland as people, and even dressed them in clothes. The animals succumbed quickly, due to a combination of the rigorous climate and improper diet. By the mid-1500s, however, Westerners knew of the existence of orangs, even though orangs were continually being confused with chimpanzees.

Public awareness of orangs increased as more of them arrived in Europe but, even today, they are unfamiliar to many. The public, in general, doesn't know the animal's correct name, often calling it “orang-utang.” The addition of the final “g” changes the meaning from “man of the woods” to “debtor” in Malay. This is particularly ironic considering the havoc people have wrought on the orang and its ecology. I have even heard orangs referred to as “orange utans” (they are reddish, after all).

Orang-utans are probably the most arboreal of the great apes. However, they do come to the ground on occasion. Their social structure, too, is different, since they basically travel alone and not in family groups. One or two females traveling with offspring or two or three young animals together can be seen, but I do not think adult males

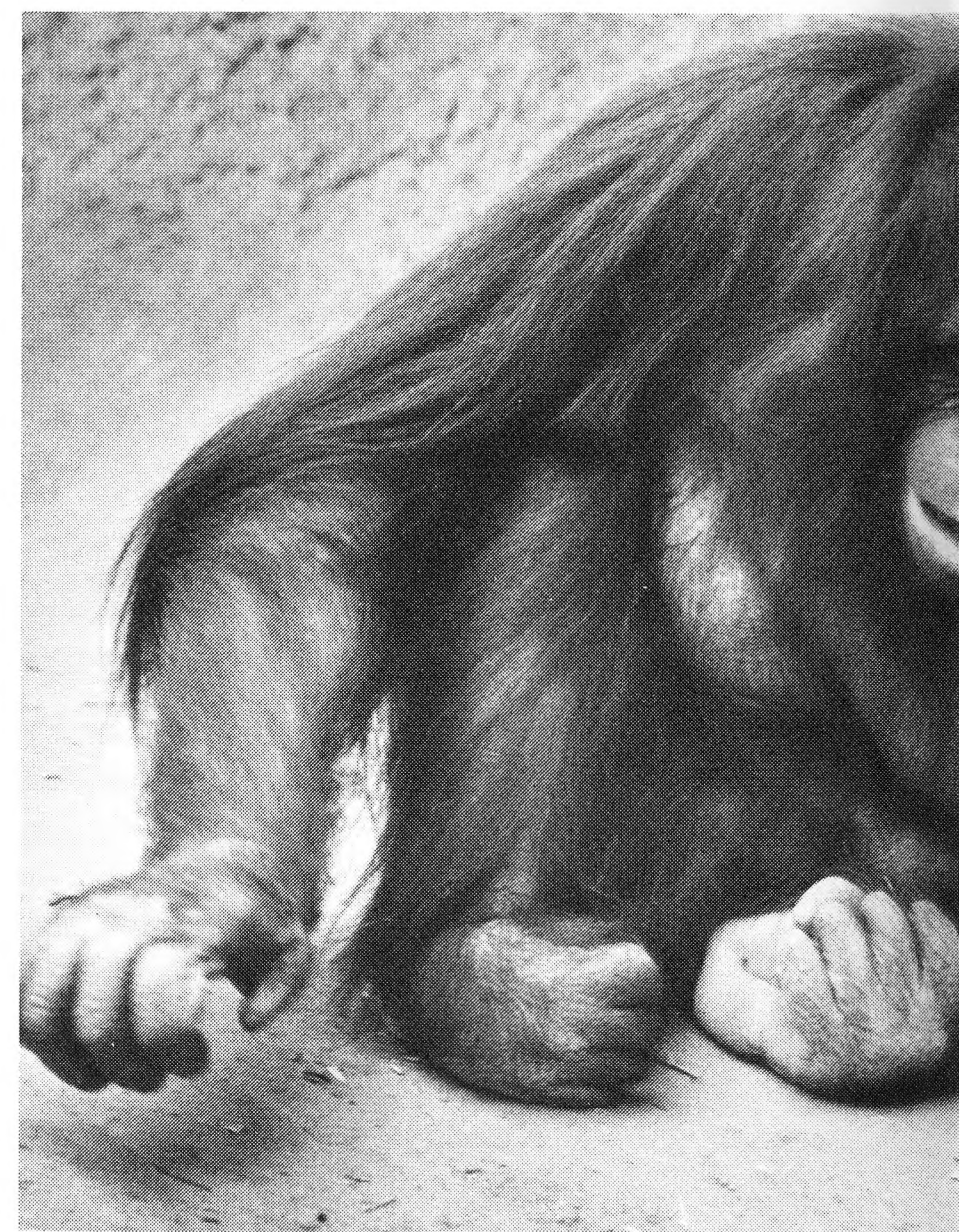
“Orang-utans are probably the most arboreal of the great apes. However, they do come to the ground on occasion.”

have ever been seen together. Of course, an adult male will stay with a female during the period she is sexually receptive; but then he goes his solitary way again.

Orangs may be the most severely endangered of the great apes. Although orangs have been slaughtered throughout the centuries, the main cause of their predicament is destruction of habitat. As the forest is cut for lumber and the land cleared for farms, the orang is pushed farther back, with far less area to live in.

Orang-utans breed well in captivity, and now a number of captive-born animals are also beginning to reproduce. In all probability, orangs are doomed in the wild; so if the species is to be saved, zoos will have to continue their efforts to get zoo-born orangs together for breeding.

Three orang-utans can be seen at the National Zoo—a 12-year-old male, Atgeh, born here to a 25-year-old female, Jennie; and an 11-year-old female, Pensi. The National Zoo's breeding of a second-generation orang-utan in 1977 (Pensi's son Azy) was such a remarkable achievement that it won the coveted Edward H. Bean Award, given by the American Association of Zoological Parks and



Aquariums for the year's most notable zoo birth.

Give a chimp and an orang something they have never seen before, and odds are the chimp will try to smash it, while the orang will try to take it apart. Failing that, the orang will use it to try to take its cage apart. Providing playthings for orang-utans is a real challenge to zoo people. The toys must be harmless to the primate, of course, and should be constructed so that the animal cannot use them to dismantle its cage.

Orangs have the most mobile lips and mouths of all the great apes. Chimps appear to have more expressive faces, but orangs can do more with their lips and mouths. For instance, they can eat a number of times in a day and that night still



have some food from the morning hidden in their mouths.

Gorillas

"If the gorilla did not exist, he would have had to be invented," said one observer. People so badly want to believe in monsters that, by sheer size alone, the gorilla fills the bill. In reality, gorillas are the opposite of monsters. If I were to categorize gorillas—as I did chimps and orangs—as to personality, I would say they have great dignity. They never prance and simper to curry favor, the way chimps do; they rarely play the buffoon, as orangs sometimes do. They are extremely sensitive animals and frighten easily.

I do not believe any animal is more misunderstood by the general

public than the gorilla. Of course, after King Kong, Mighty Joe Young, and Gargantua, what can you expect? The first two animals are fictional; and Gargantua, while not fictional in body, was in reputation. As non-aggressive as most male gorillas, and not an especially big animal, Gargantua could be made angry or upset. When he was to go on display in the Ringling Brothers sideshow, his handler would run a metal cup over the bars of his cage, a sound Gargantua particularly disliked. He reacted by running around his cage and smashing into the bars. Thus the "vicious" gorilla.

There is marked sexual dimorphism in the gorilla. An adult male may weigh over 500 pounds in captivity, while it is rare for a female to go much over 200. Many people think of gorillas as particularly hairy. Many times I've heard a man with hair on his chest referred to as a "hairy gorilla." In reality, adult male gorillas do not have hair on their chests; they have naked chests. All we know about gorilla behavior, physiology, and ecology we have learned, essentially, within the last 20 years. Before that time, it was hearsay and speculation.

Paul du Chaillu was the one person most responsible for promulgating and fostering the gorilla myth. He explored the West African gorilla country and brought back incredible stories. Du Chaillu was the man who originated the one about gorillas carrying off native women, one of the most persistent gorilla myths—but really, what would a gorilla do

with a woman? It is possible to be within smelling distance of gorillas in the wild and not be able to see them, since they much prefer to hide than fight—certainly not a characteristic of a vicious animal.

One popular belief—and a true one for a change—is that gorillas beat their chests. This is a sign of excitement. They do it when angry, happy, or just plain excited. It may be instinctive as well, although I find it difficult to believe there could be a gene for any form of behavior. However, gorillas raised by hand away from other gorillas eventually beat their chests. Incidentally, gorillas will frequently beat on other parts of their anatomy as well. The soles of the feet seem second only to the chest in preference; these they beat while lying on their backs.

Du Chaillu actually misinterpreted what he saw. Adult males undoubtedly did charge him, but he apparently shot before giving them a chance to retreat, which is their normal tactic. Rather than attacking du Chaillu, they were trying to scare him away.

From Dr. George Schaller's classic field study, *The Year of the Gorilla*, we know that in the wild gorillas appear to be strictly vegetarian, although in captivity they eat meat. They travel great distances, spending much of their time foraging along the way. Gorillas build nests every night for sleeping, although the large males usually stay on the ground. A large male leads the family group and dictates to the troop when to move on, when to stop, etc. One of the leading

categories in behavioral research today is non-verbal communication, and the gorillas are expert at it. Much of gorilla communication is done through changes in posture. For example, when the leader wants the troop to move on, he stands in a certain stiff-legged, stiff-armed way. Then he moves on and expects everyone else to follow. They usually do.

Gorillas are tremendous attractions in zoos all over the world. The National Zoo exhibits three lowland gorillas. Tomoka, a 17-year-old male, is the second gorilla ever born in America. He is also only the fourth to be bred, born, and reared in captivity in the world.

Today, gorillas are an endangered species for much the same reason as are orang-utans—their habitat is steadily being eroded for farms and grazing cattle and goats. It is about 50-50 whether gorillas will survive in the wild; but they are breeding well in captivity, and proper zoo management should ensure their survival.

Intelligence

"How smart are they, anyway?" is a question zoo people hear practically every day. It is most frequently asked about the great apes, as you might imagine. Of course, the chimp has been studied exhaustively, while the orang and gorilla have been tested very little in comparison. It always amazes me to hear scientists proclaim the chimp the smartest animal next to human beings when so little experimental testing has been done with the orang and gorilla.

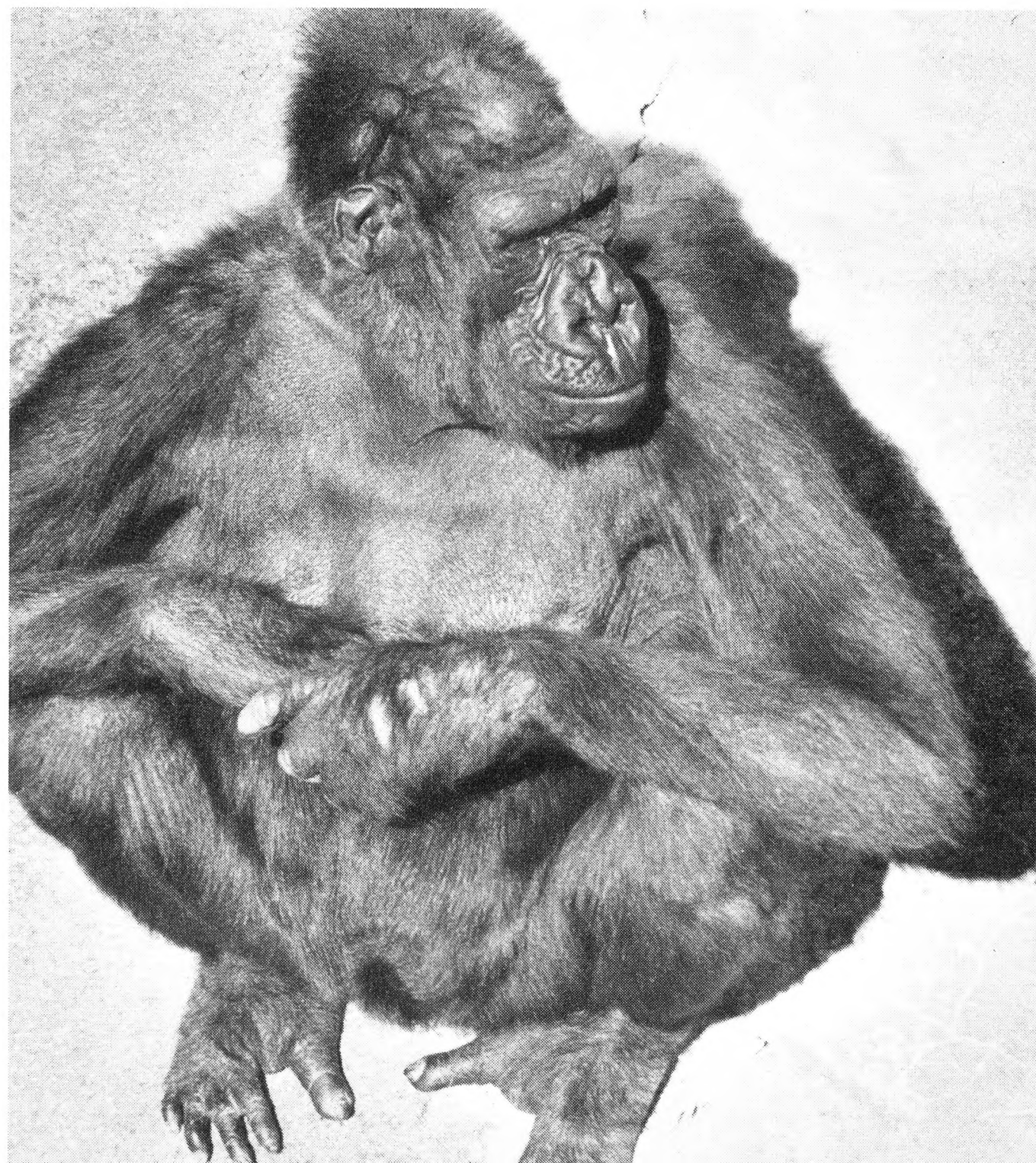
"I do not believe any animal is more misunderstood by the general public than the gorilla."

To my knowledge, there is little evidence to indicate that the chimpanzee is a more intelligent animal than the orang or gorilla. In fact, there is evidence that may indicate the opposite. In the four-year research project for the University of Oklahoma with which I was involved at the Oklahoma City Zoo, our tests on the comparative intelligence of the great apes indicated no significant statistical difference in their performances, although the orangs per-

formed the best of all. In more recent studies, orang and gorilla groups have been found superior to the chimpanzee group in a number of areas of intelligence. If brain size were used as a gross indicator of intelligence, then the ranking would be gorilla, orang-utan, and chimpanzee. Based on 19 years of working with apes, I would say there is no smartest ape species; there are only apes as individuals. There are smarter apes and not so smart apes, the same as you find in humans.

This article has been adapted from Saul L. Kitchener, "The Great Apes," in *The Ark* (Chicago, IL: Lincoln Park Zoological Society, 1976), with the permission of the author.

A lowland
gorilla
from the
San Francisco
Zoo.



The Great Ape House

Jeanne Roush

Keeping up with the Joneses won't be so easy in 1980—especially if you happen to move in next door to the new ape house at the National Zoo. Construction has begun on a new ape house, scheduled to open during August of 1980. In addition to the conveniences that we and the Joneses take for granted, such as air conditioning and television, the innovative exhibit will feature indoor and outdoor pools, skylights, solar heating, and jungle-like greenery.

The new Great Ape House will follow the National Zoo's master plan for housing animals in more naturalistic settings. A team of Zoo staff members and architects from the firm of Wilkes and Faulkner have been working for two and a half years to design what they believe will be the best ape house in the country.

One method the team used to arrive at their design was to visit other ape facilities around the world. This enabled them to choose for their ape house the best features from such zoos as those of Cincinnati, San Diego, Chicago, Basel, Zurich, and Frankfurt.

Since the architects from Wilkes and Faulkner had never designed a zoo building, they and the Zoo staffers had to pool a great deal of information to arrive at the current



Before: Construction for the new Great Ape House is under way.

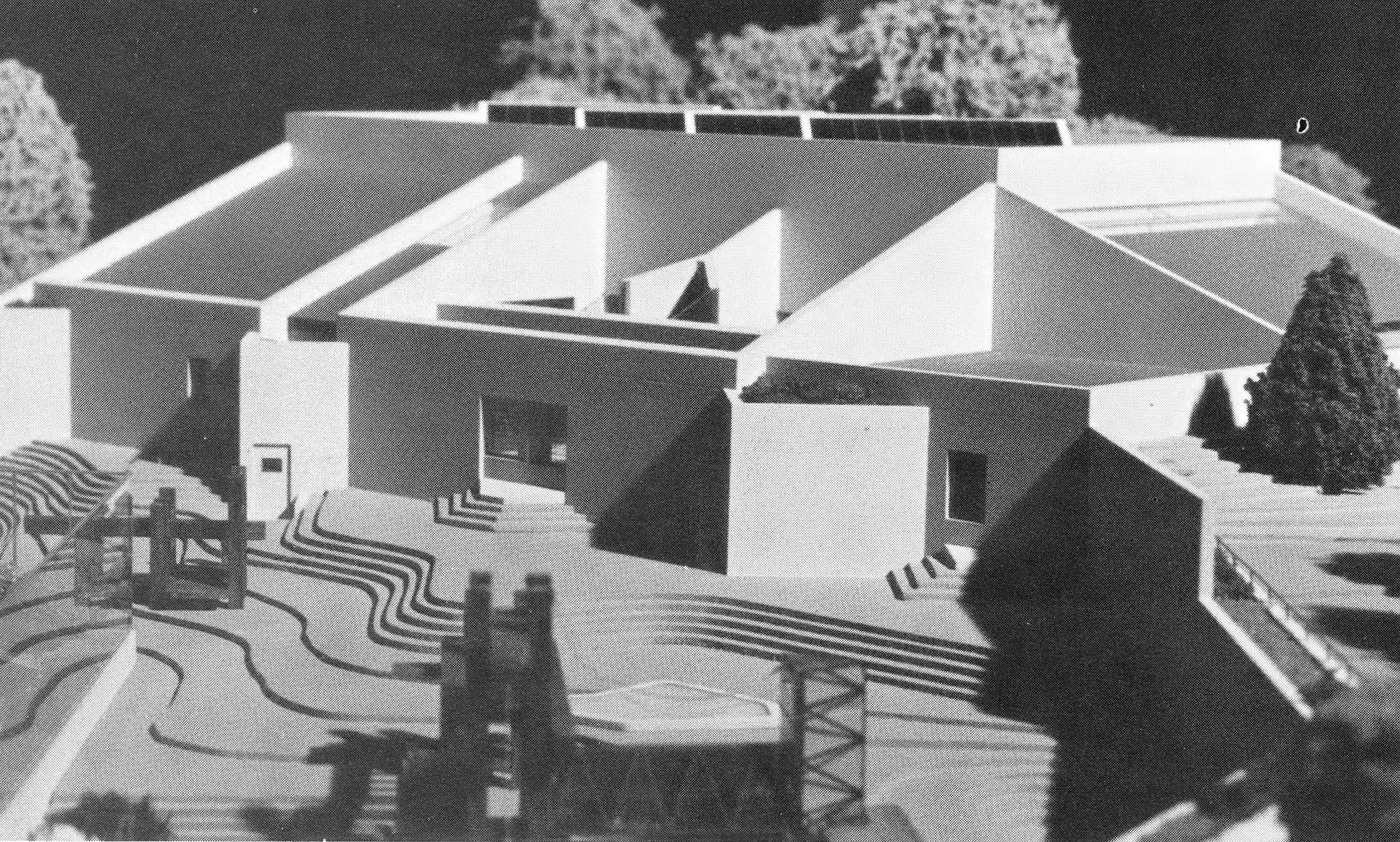
design. The Zoo staff members had to inform the architects of all the special requirements that had to be taken into account in housing such large, intelligent, and strong animals as the great apes; the architects in turn had to inform the Zoo staff members of what types of building materials and designs could best meet these needs.

The \$2.3 million ape house will occupy about one acre of land between the Small Mammal House and the Reptile Building. A major consideration of the design was to have the building blend into the landscape. This will be achieved by putting half the structure under ground, and by surrounding the remaining, 25-foot-tall above-ground portion with tall oak and maple trees. The building will be constructed of the same buff-colored, textured concrete as the new Education-Administration Building and the William M.

Mann Memorial Lion-Tiger Exhibit.

Upon entering the Great Ape House, Zoo visitors will stand face to face with the apes, with only 1¼ inches of glass, instead of bars, between them. Of course, this will not be ordinary glass, but laminated glass, strong enough to withstand even the charge of an angry 500-pound gorilla. The glass plates will be ten feet tall, and will run the length of the enclosure. The apes will be viewed, and will view their visitors, against backgrounds of lush vegetation resembling the apes' wild habitats. A final, naturalistic touch will be the use of skylights as the primary source of light for the exhibit. In short, for the visitor it will be the next-best thing to being in the wild with the apes.

The gorillas will have three rooms, all of which may be subdivided or reopened as necessary, depending upon the animal popula-



After: A model of the Great Ape House. The new exhibit is scheduled to open in August, 1980.

tion at any given time. The largest room will be 40' by 15'; the other two will each be 20' by 20', and each room will have access to the outdoors. Indoor climbing structures on different levels will have nooks and crannies so that the apes will have places for recreation and privacy.

In addition, if the gorillas are feeling particularly energetic, they will be able to splash around in a pool. If not, they can sit back, just like the Joneses, to watch a little television. Their TV, which is a gift from FONZ, will be placed so that the public will be able to see which programs the gorillas have chosen.

Perhaps the biggest advantage of the new facility will be that the Zoo will be able to expand its gorilla population and to house it in a group structure similar to what it would have in the wild. This social setting will be a good psychological stimulus, and should achieve one of the

Zoo's major goals for the apes—a high level of social interaction: playing, grooming, even mating.

The indoor accommodations for the orangutans will be much like those of the gorillas. However, since in their natural habitat orangutans spend 80 percent of their time in trees, their climbing structures will be much more vertically oriented than those of the gorillas. The ceiling in the orangutans' rooms will be 21 feet high, compared to only 16 feet in the gorillas' rooms; and the public will be able to view the orangutans' rooms from two levels. In addition to the climbing structures, the oranges will have an indoor pool; but, unlike the gorillas, they will have no television. Orangutans are the least sociable of the great apes, and apparently get no kick from TV.

As with that of the gorillas, the Zoo plans to expand its population of orangutans when the new facility is

ready; and the new orangutan population will be housed in a manner which takes their individual pattern of social organization into account. Orangutans in the wild are much more solitary than the gregarious gorilla. Though mothers and babies stay together, adult males usually travel alone.

The outdoor part of the exhibit will consist of one large yard for the gorillas, 140' by 75', and one large yard for the orangutans, 60' by 60'. The public will be able to view these yards either through laminated glass, from indoors, or from across a moat outdoors. The landscaped yards will have outdoor pools and various climbing structures for the apes' recreation, relaxation, and privacy.

In an effort to keep repair and maintenance costs low, all hardware will be stainless steel, and the concrete walls will be coated with a sealer to eliminate the need for paint. While the skylights are an attractive design feature, they will also save energy by providing natural light sources and warm-weather ventilation. Another energy-saver will be four solar panels in the roof, installed to heat all the water used by the facility.

The National Zoo has gone to great lengths to insure that the new Great Ape House is one of the best in the world. From solar panels to indoor pools, the new house promises to combine the best of modern technology, zoo experience, and naturalness to produce a unique zoo-going experience.

Reptile Research Roundup

Dale Marcellini
Research Curator

On the surface, the Reptile House appears to be the quietest and least active part of the Zoo. To the casual visitor, and perhaps even to the experienced zoo-goer, the animals there seem to do very little—and to do *that* slowly. But if one looks closely and for longer periods of time, it is obvious that much is going on. Crocodiles are moving about and displaying for their cage mates. Snakes are courting and copulating. Frogs, toads, turtles, and even lizards are making sounds. Behind the lines, out of sight of the visitor, keepers are moving animals about, making introductions, or manipulating light and humidity cycles to induce breeding. In the incubator room, eggs are being set up for incubation, while other eggs are hatching.

Much of this activity generates information or questions that become part of crucial research projects. And to know more is to improve the management and breeding of captive animals. Several key projects currently under way are briefly described in this article.

The social behavior of Cuban crocodiles is being documented; until now, very little has been known about their behavior. The National Zoo is fortunate to have the largest group of Cuban crocodiles outside Cuba. Reptile Keeper Leader Mike

Davenport is studying the social behavior of these crocodiles, with emphasis on their aggressive and courtship behavior. With the help of FONZ guide Eliza Soyster, much information has been gathered and films have been made of crocodile behavior.

I myself am studying thermal feeding response in pythons—the increase in body temperature that occurs when some snakes are fed. (Yes, snakes are *not* really cold-blooded!) To do this, we feed the pythons tiny radio transmitters that produce a signal in response to changes in temperature. By counting the pulses in a given length of time, we obtain accurate body temperatures. Thus far, we have found that these snakes can maintain temperatures of 2° C. above the temperature outside them for long periods.

Zookeeper Trooper Walsh is documenting the techniques used to maintain and breed emerald tree boas. Many zoos have these beautiful snakes, but have been unable to breed them. At the NZP, we have bred emeralds successfully for the past two years; Keeper Walsh is writing a paper describing exactly how we have done it. The paper will contain advice on caging, food, light and humidity cycles, and the techniques used to induce breeding. When published, this report should help other institutions to successfully maintain and breed these beautiful snakes.

Many experts believe that snake growth is influenced by the size of the snakes' enclosure—the smaller

the enclosure, the smaller the snake. For more than a year and a half, the reptile and amphibian keepers have been doing a study to determine if cage size affects the growth of corn snakes. Equal numbers of hatchling snakes were placed in three enclosures: a five-gallon aquarium; one-half of a five-gallon aquarium; and one-fourth of a five-gallon aquarium. The snakes' food was weighed; each snake received the same amount of food each week. The snakes were measured and weighed bi-monthly.

Now the snakes are adults; and the preliminary results indicate that crowding has not retarded their growth, either in length or in weight.

Keeper Bela Demeter participating in an experiment on the effects of handling on hatching success.





Preliminary results indicate that crowding does not retard the growth of hatchling snakes.

Each snake grew to nearly three feet in length; those in the smallest enclosures were literally coiled back onto themselves. All of the snakes appear equally healthy; and, in fact, the ones in the smallest enclosure are the heaviest. The results of this study will be published; we hope that they will alter thinking about snake growth.

A long-term study of the vocalizations and vocalization-related behavior of geckos (a small lizard) is also being conducted. Gecko calls are being recorded and analyzed using a sonagraph, with the goal of documenting the types of calls that each species produced. The contexts of the vocalizations are also being

noted, so that functional interpretations can be made. The results of this work might be used to identify different species by their characteristic sounds.

There are many disagreements about how reptile eggs should be incubated. Some experts say that reptile eggs may be handled after being set up for incubation; others say no.

The National Zoo is conducting experiments to determine the effects of handling on hatching success. Clutches are treated in three different ways. Some eggs are set up and not handled. Others are set up and rotated weekly, one time lengthwise, and two times on their axes, so that they end up with the same side up when they are replaced. A third group is rotated weekly, one time lengthwise and *one-and-a-half* times on the axes, so that the eggs are replaced upside-down. Thus, we have two experimental groups and one control group.

We have made this experiment with two species of snake and one of lizard, and are currently working with tortoise eggs. So far handling has had no effect on hatching success. When the tortoise work is completed, the data will be published; we look forward to its helping to dispel yet another myth about reptiles.

Thus, in the seeming quiet of the Reptile House, much is happening. Animals are doing things and people are researching. The next time you visit the Reptile House, look more closely. You may see something interesting.

Elizabeth C. Reed

On November 2, 1978, Elizabeth Crandall Reed, wife of Theodore H. Reed, the Director of the National Zoo, lost her long and gallant struggle against cancer.

Mrs. Reed loved animals all her life; her active involvement with them began in her childhood, when she became a member of the 4-H Club. She met Dr. Reed while they were both students at Kansas State University. They married in 1945 — and went to the Kansas City Zoo on their honeymoon.

Mrs. Reed's association with the National Zoo began in 1955, when she and Dr. Reed came to Washington from Oregon, where he had been veterinarian of the Portland Zoo.

When Mohini Rewa, the Zoo's famous white Bengal Tiger, gave birth suddenly in April, 1969, Mrs. Reed took over the painstaking task of rearing her cub, Rewati. In "White Tiger in My House," an article Mrs. Reed wrote for the *National Geographic Magazine* (April, 1970), Mrs. Reed commented, "I've been foster mother to four hybrid bears, one grizzly cub, and two young leopards. Oh yes, and to a ring-tailed lemur that used to perch on my shoulder drinking orange juice. . . . One day my phone is sure to ring again, and Ted will be at the other end of the line, saying, 'Get the nursery ready.' I wonder what kind of infant I'll be asked to mother then?" In fact, Mrs. Reed was foster mother to many of the Zoo's most difficult births; her patience, good humor, and competence made her invaluable.

Mrs. Reed was particularly interested in the Zoo's services to the public, and contributed many hours as, for example, a volunteer in the Gift Shop when it first opened. On her final visit to the Zoo in the early fall of 1978, when she was confined to a wheelchair, she made several suggestions on how to improve the services the Zoo offers to the handicapped.

The Friends of the National Zoo offer their sympathy to the Reed family. The Zoo has certainly lost one of its greatest friends.



* * *

Dr. Reed wishes to express his personal thanks to the many FONZ members who sent messages of sympathy and condolence. "Elizabeth had many hours of enjoyment working as a volunteer for the Zoo, even behind the scenes. No one can put the value of a person's life into mere words; but you can say thank you to your friends — and I do."

President's Report

Dr. Stephen T. Hosmer
FONZ President

We meet tonight as Friends of what has truly become one of the world's great zoological parks. Those of us who knew this zoo twenty years ago, when the FONZ was born, cannot but be impressed with the enormous size of the transformation that has been accomplished under Ted Reed's and the Smithsonian's leadership during the past two decades. The spectacular quality of the National Zoo's exhibits and other new physical facilities is apparent to all who visit here. What are less evident, but no less important, are the great strides that have occurred "behind the scenes": the Zoo's growing attainments in the fields of zoological research, animal health care, education, and the management and breeding of endangered species—fields in which the National Zoo is gaining worldwide recognition for leadership and excellence.

We, as Friends of the Zoo, obviously derive satisfaction from the fact that the FONZ has contributed importantly to the development of today's Zoo and that we are in an increasingly stronger position to assist the Zoo's work of the future. Because of your active support and the continued financial success of our food, gift shop, and parking

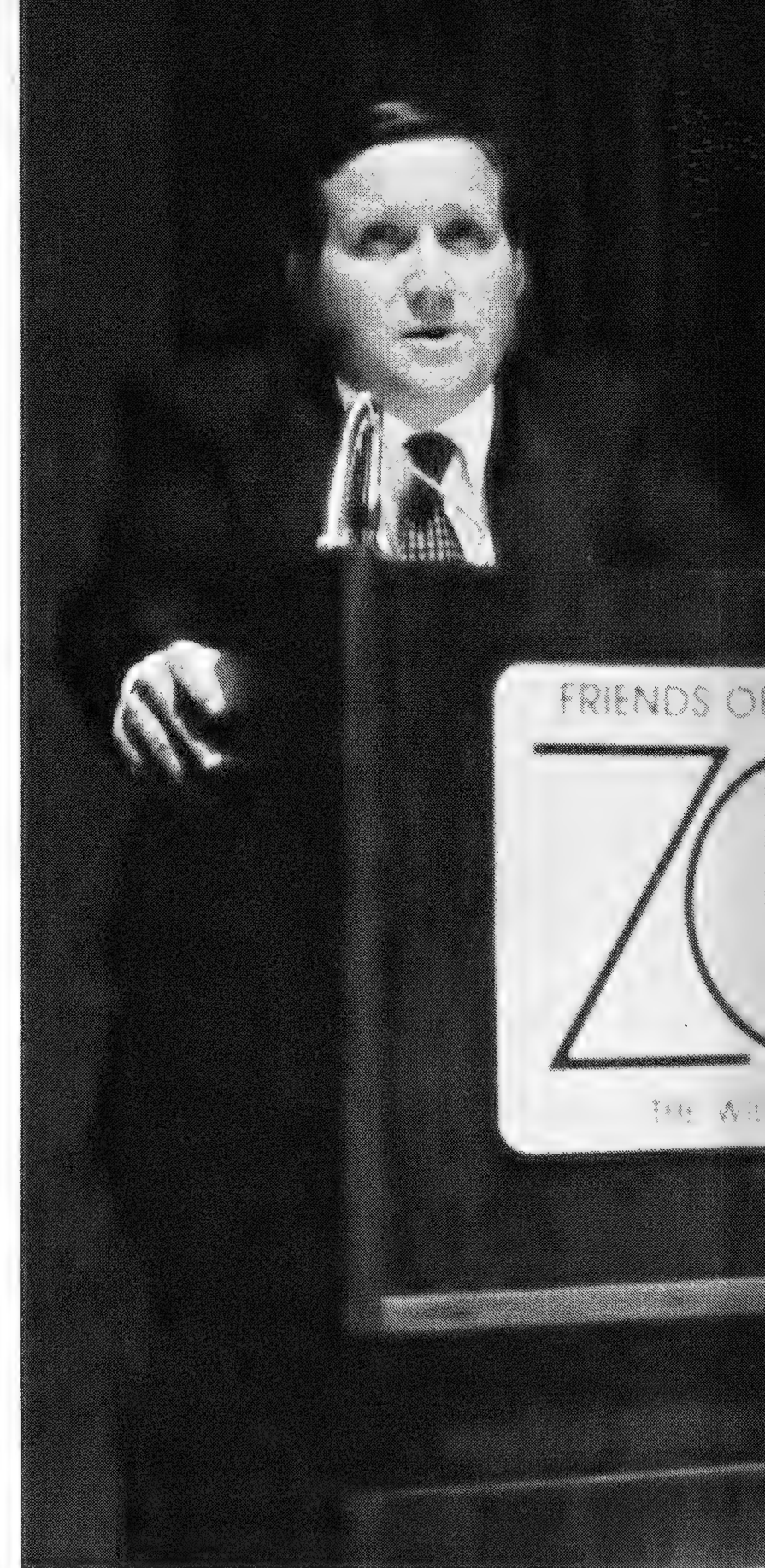
operations, the FONZ this year will contribute more than \$350,000 to education, research, conservation, and other activities of direct benefit to the National Zoo. This constitutes a 40 percent increase in funding over the previous year.

Let me briefly describe the types of diverse projects this revenue has been used to support.

Many of you, I know, have seen and enjoyed the award-winning FONZ-produced movie, "Zoo," which was shown daily in this theater to summer Zoo visitors. Encouraged by the success of this initial effort, FONZ this year asked the director of our first film to make another—this time on the exciting story of the Zoo's efforts to preserve endangered animal species through captive breeding and scientific study at the Conservation and Research Center at Front Royal, Virginia. This 27-minute color and sound film should be completed this spring, and will be shown both here and, eventually, at Front Royal, and will also be distributed to schools and libraries. Recently I saw a preliminary version of the movie, and I feel confident that we will have another film hit to our credit.

Since 1975, FONZ has funded a number of conservation and research projects carried out by the National Zoo. In 1978, FONZ committed \$126,000 to such projects—a 50 percent increase over last year.

A new series of conservation study grants was funded which promises to benefit endangered animals directly. One grant has enabled our Zoo to join with the New York



Dr. Stephen T. Hosmer

and Philadelphia zoos in a first-ever joint expedition to study Indonesia's unique birds of paradise and to obtain specimens for captive breeding by each zoo. A second grant is supporting a field study to evaluate the success of a relocation project in Utah to save the endangered Utah prairie dog. This is of special interest here because the National Zoo has what is probably the only captive breeding group of these animals in the world.

A third conservation grant has sent the Zoo's Dr. Wemmer to the Celebes in Indonesia to lay the groundwork for the study, and, it is hoped, the eventual capture, of the elusive giant civet cat for captive breeding. The giant civet cat is an animal so rare it has never been exhibited in zoos.

Two other FONZ-supported programs were launched this year. A visiting keeper program has been initiated to stimulate the exchange of ideas and techniques between leading zoos throughout the world, and a visiting lecturer program has already brought five noted zoological and medical experts to the National Zoo for stays of up to two weeks to share their knowledge with our staff.

In 1978, FONZ has once again funded summer interns and longer-term fellows to assist Zoo professionals in various program offices. This year the program was expanded to twenty summer interns and four fellows, drawn from fifteen colleges in ten states.

A team of five interns conducted dawn-to-dusk observations on hoofed-stock behavior patterns at our Front Royal Conservation and Research Center. Two other interns, assigned to the Office of Education, conducted studies relating to visitor utilization of our Zoolab.

Another participant, assigned to the Office of Pathology, produced such fine research on a little-known disease affecting waterfowl that his findings were presented at a national symposium.

Moreover, one FONZ fellow's exhaustive study on the Zoo's group of dik-dik antelopes has laid the groundwork for a long-term breeding program for these endangered animals.

FONZ interns and fellows are providing the Zoo with valuable data on animal behavior and breeding patterns which will improve captive management techniques for endangered species. This on-the-job training has, in addition, strengthened

"Overall, 1978 has been a remarkably productive year for the FONZ."

the determination of these FONZ scholars to pursue professional careers in exotic animal science.

For the fourth year, FONZ has underwritten expenses for scientific symposia and workshops at the Zoo, including the publication of proceedings. Just this month over 200 prominent pathologists and medical technicians from the United States and 14 foreign nations spent three days here exchanging ideas and techniques on how to improve the health care of animals. This symposium represented the first such meeting of pathologists in the Western hemisphere.

A FONZ-funded workshop in May brought 40 Père David deer experts together at Front Royal, where the Zoo maintains a large and successful breeding group of these animals—which today only survive in a few captive herds.

And finally, the FONZ has helped fund a series of imaginative educational exhibits for the soon-to-be-opened North American Mammal Exhibit in the old Beaver Valley area.

Education, of course, remains a prime concern for the FONZ. So I am proud to report that two FONZ-NZP education programs have recently won national honors. At last month's annual meeting of the American Association of Zoological Parks and Aquariums, the Zoolab and the Zoo's Fourth Grade D.C. School Program were given awards for innovative educational programming. Both these programs received FONZ financial support and have been carried out by FONZ volunteers. The fourth grade pilot program, which involves multiple visits to the Zoo by each school class, was extended to 16 elementary schools this year.

Following in the successful footprints—or should I say pawprints—of Zoolab, another hands-on discovery room opened this month in the Bird House. It is called Birdlab, and, again, would not be possible without FONZ financial support and volunteer staffing.

Another innovation this year was our Roving Guide Program. Specially-trained volunteers roamed the Zoo every day this summer, and will do so on weekends this fall, to aid visitors and to answer questions.

Our always-popular Behavior and Preg-Watch Program has for the first time a built-in training component, and soon we will be using videotape films to help our volunteers identify typical behavior pat-

terns in those species to be studied.

The oldest FONZ education effort, and the largest in terms of volunteers and of students directly reached, is, of course, our volunteer guide program. In 1978, some 60 trained FONZ guides taught zoology to 15,000 students on guided class tours. These expert teachers are part of a remarkable corps of FONZ volunteers, who this year have already devoted more than 40,000 hours of their time to helping the Zoo by giving tours, staffing Zoolab and information booths, and assisting Zoo scientists in carrying out crucial behavior and breeding studies. This kind of extraordinary volunteer commitment is dramatic proof of that special kind of FONZ dedication that

has been the heartbeat of this organization from its beginning.

A concerted effort has been made this past year to expand the size and diversity of programs organized just for you—the FONZ member. More than 70 different activities were offered to FONZ members in 1978. They ranged from the 60 junior members who staged daily, animal-themed puppet shows to enthusiastic Zoo audiences, to a Sketch-In, Photo Contest, Treasure Hunt, Family Days, Zoo Nights, monthly film-lectures, and safaris to places as near as a canoe trip on the Patuxent River, or as far as China, to see their giant pandas first-hand. We expect to have an equally attractive package of membership activi-

ties next year, activities that again will be designed to appeal to all ages, interests, and pocketbooks.

Overall, 1978 has been a remarkably productive year for the FONZ. Our dues-paying membership stands at over 11,000, and, as our treasurer will soon report, our financial position has never been stronger. Much of the credit for this must go to the able leadership of our Executive Director, Sabin Robbins, our Associate Director and Business Manager, Dennis Baker, and to the talented FONZ staff that makes this organization tick. It is they, along with the support of members such as you, who make it possible for us to continue to serve as effective Friends of this great Zoo.

Lion, Mengoub, meets FONZ volunteer Nell Ball, in an on-going, FONZ-supported program studying lions' behavioral patterns.



Treasurer's Report

M. Anthony Gould
FONZ Treasurer

When I gave the annual Treasurer's Report a year ago, my last words to you were, "I think that every member of FONZ can look to a future that is stable financially and will allow us to turn more and more of our energies to our real goal . . . education."

I am pleased to report to you tonight that we are steadily on course. Dr. Hosmer has already detailed many of the major new research and education programs that the FONZ supports. The \$350,000 referred to by Dr. Hosmer represents a 40 percent increase over 1977's figure. The following report will review and highlight how we have reached the point of what I will call "capacity"—that ability to make an annual contribution to NZP that is both meaningful and in keeping with our charter.

In point of fact, the \$350,000 represents a movement long anticipated. As many of you will remember, the past few years were dedicated to growth and expansion, and to major capital investment, in order to maintain pace with development of the "New Zoo." Monies borrowed and earned during 1975-1977 were primarily utilized to develop a sound foundation for visitor services—food, merchandising, parking, and trains. Monies were also utilized for new starts in the day-to-day educational programming at the Zoo. The fruits

of these investments are evident when you visit Zoolab in this [the Education] building; view the film "Zoo" (and our soon-to-be-screened, exciting Front Royal footage); hear of the recognition given the D.C. School System/Zoo pilot project; and see the statistics on the many thousands of people, primarily school-aged, who receive guided tours of the Zoo each year.

This period, as I stated, set the stage for FONZ in 1978: to provide the capability for further excellence to be gained through expanded education, research, and conservation projects. As Dr. Hosmer has highlighted, 1978 FONZ monies have opened the doors to these areas, thus vaulting the National Zoological Park into the international limelight.

Without reviewing all of the numbers, some figures of importance are: Gross income from October 1, 1977 through September 30, 1978 was \$2,109,740, with expenses of \$2,086,000 for the same period. And even though we are heading into the cold-weather months and minimal visitation, we expect to have a surplus at the end of this calendar year of \$87,000. These funds will be applied to 1979 Zoo research projects and other programs. It is also worth mentioning that we have continued our policy of investing surplus funds in federal or state depositories, Treasury bills or short-term certificates of deposit, choosing whichever investment will yield the highest return on our money. I might add that in terms of debt, the amount owing on the Smithsonian loan has



M. Anthony Gould

been reduced to \$75,000 from \$121,000 at this time last year.

What we often forget is how much work goes on behind the scenes. Without it we wouldn't have had a 15 percent increase in income from business operations. The FONZ staff—Sabin Robbins, Dennis Baker, and company—is to be particularly commended in this regard. For example, budget projections for the year to date are within two percent

of actual results; as a highly seasonal business, we emphasize quarterly budget reviews—and it has paid off. I might add that in both of FONZ's major money-making operations—food services and merchandising—we had new managers, both of whom came in during the peak of the season and were able not only to maintain the quality of service, but to increase their respective gross income: food by 10 percent and merchandising by 12 percent. And, if you will permit a brief "plug": The Bookstore/Gallery in this building has been considerably expanded, and may well add a new dimension to your giftgiving options during the holidays and throughout the year.

Of course, we had our share of

disappointments, not the least of which was the first increase in the parking fee in five years. Parking is a labor-intensive operation, and one so vital to everyone's enjoyment of

"What we often forget is how much work goes on behind the scenes."

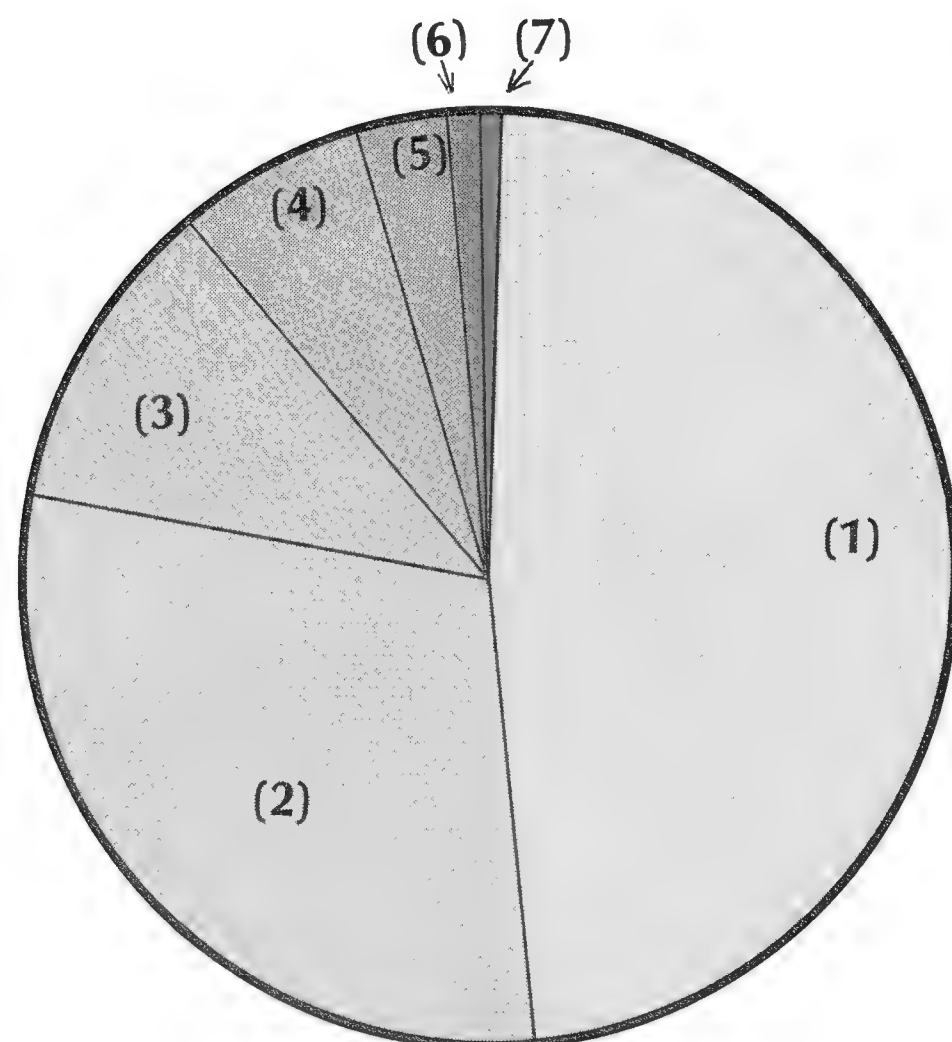
the Zoo that we had no choice but to keep pace with inflation.

The discontinuance of the trackless trains resulted, essentially, from our narrow trail system, crowded with adults and children, and the inability to incorporate a separate routing system within the Zoo's

master plan. So, after consultation with NZP officials, operations were terminated, and we have sold the equipment to the Brookfield Zoo in Chicago and to a theme park in South Carolina, for a total of \$40,500.

The loss of train service (and its attendant income) has been partially offset by the introduction of a baby-stroller operation. The test period for this operation took place during the month of August, and the strollers were so well received that we intend to provide both baby and adult strollers during the 1979 season. With the hills we have around here, that's a godsend for people over 40!

Finally, the sale of balloons was discontinued within the Park, a decision made in the best interests

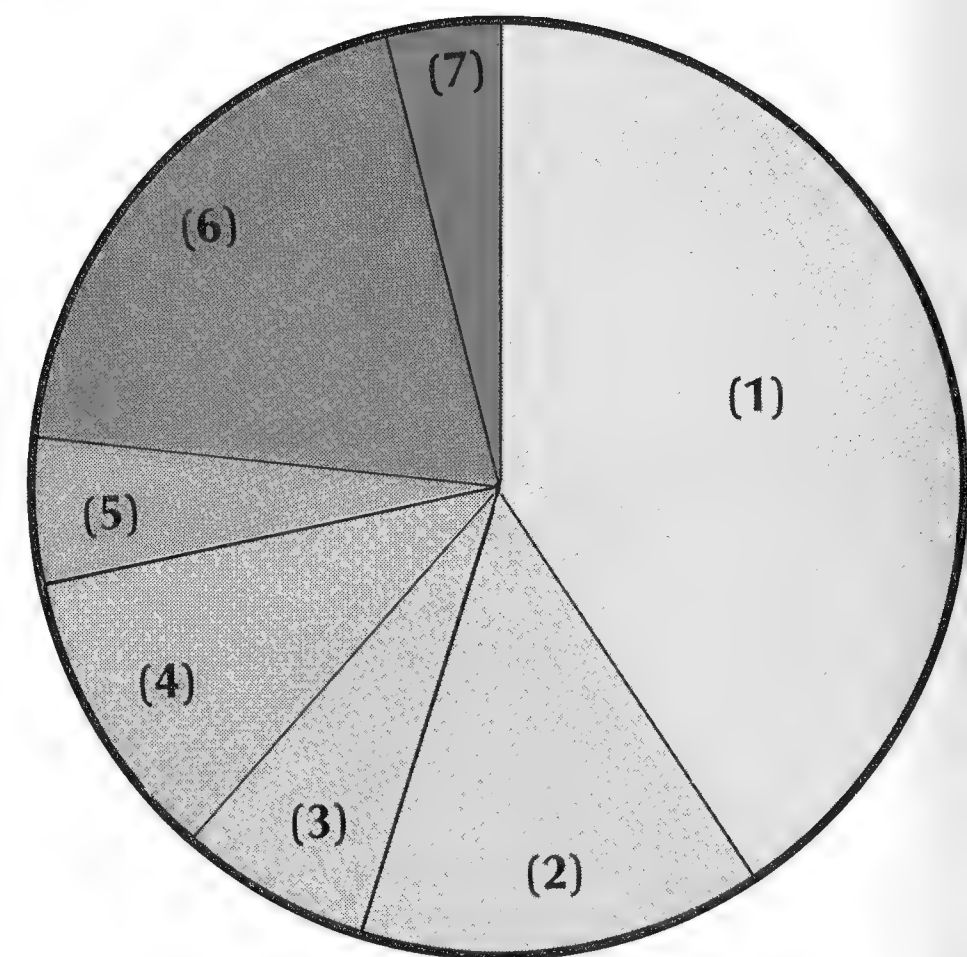


January - September, 1978

Income

| | | |
|------------------|------------|-------|
| (1) Restaurant | \$ 876,852 | 46.4% |
| (2) Gift Shops | 618,837 | 32.7% |
| (3) Parking | 226,555 | 12.0% |
| (4) Membership | 116,103 | 6.1% |
| (5) Publications | 34,546 | 1.8% |
| (6) Education | 13,257 | .8% |
| (7) Zoo Services | 2,798 | .2% |

TOTAL: \$1,888,948 100.0%



of our tenants. The keepers were finding animals, particularly birds, entangled in the strings; and in a few instances, they found that the rubber balloons had actually been ingested. So, for the safety and well-being of the animals at the Zoo, we decided to minimize the hazard by not selling this souvenir item.

I opened with a statement applauding the amount that FONZ has spent this year on research and conservation at the National Zoo. This feat represents a long-awaited gaining of stature for the FONZ. We have consistently contributed to the educational and recreational purposes of the National Zoological Park. I believe that we can continue to expand this role.

| Expenses | | |
|------------------|-------------|--------|
| (1) Restaurant | \$ 417,396 | 40.0% |
| (2) Gift Shops | 136,628 | 13.1% |
| (3) Parking | 78,488 | 7.5% |
| (4) Membership | 108,096 | 10.3% |
| (5) Publications | 53,829 | 5.2% |
| (6) Education | 210,213 | 20.1% |
| (7) Zoo Services | 40,040 | 3.8% |
| TOTAL: | \$1,044,690 | 100.0% |

FRIENDS OF THE NATIONAL ZOO
BALANCE SHEET

As of September 30, 1978

ASSETS

CURRENT ASSETS:

| | |
|-----------------------------|----------|
| Cash on Hand | \$ 8,425 |
| Cash in Bank | 142,072 |
| Cash in Savings | 190,133 |
| Investments | 116,388 |
| Accounts Receivable | 7 |
| Inventory | 137,943 |
| Bags & Supplies | 6,250 |
| Prepaid & Deferred Expenses | 16,424 |

TOTAL CURRENT ASSETS:

\$ 617,642

FIXED ASSETS:

| | |
|--------------------------|------------|
| Shop Building | \$ 155,404 |
| Bookstore | 14,128 |
| Furniture & Equipment | 91,168 |
| Library | 2,232 |
| Train Equipment | 103,190 |
| Restaurant Equipment | 98,160 |
| Restaurant Building | 92,089 |
| Restaurant Improvements | 93,143 |
| Parking Equipment | 22,127 |
| Accumulated Depreciation | (287,969) |

TOTAL FIXED ASSETS:

383,671

TOTAL ASSETS:

\$1,001,313

LIABILITIES AND FUND BALANCE

CURRENT LIABILITIES:

| | |
|------------------|-----------|
| Accounts Payable | \$ 64,098 |
| Accrued Salaries | 18,835 |
| Taxes Payable | 32,292 |

TOTAL CURRENT LIABILITIES:

\$ 115,225

NOTES PAYABLE:

| | |
|-------------------------|-----------|
| Smithsonian Institution | \$ 75,307 |
|-------------------------|-----------|

TOTAL NOTES PAYABLE:

\$ 75,307

UNEXPENDED FUND BALANCE:

| | |
|-------------------|------------|
| Balance January 1 | \$ 717,879 |
| Net Profit | 92,902 |

TOTAL UNEXPENDED FUND BALANCE:

\$ 810,781

TOTAL LIABILITY &

UNEXPENDED FUND BALANCE:

\$1,001,313

FONZ Elects New Officers and Directors

At the FONZ Annual Meeting on October 26, 1978, members elected new officers and directors for the coming year.

Dr. Stephen T. Hosmer, senior staff member of the Rand Corporation, was re-elected for a third one-year term as President. A graduate of Yale University (B.A., M.A., and Ph.D. in International Relations), Dr. Hosmer has been an active FONZ Board member since 1973, and has in the past served as Treasurer of FONZ and as chairperson of several committees.

Other officers elected for one-year terms were:

- John S. Brown, an architectural planning consultant—First Vice President
- Whayne S. Quin, a partner in the law firm of Wilkes & Artis—Second Vice President
- M. Anthony Gould, a realtor executive with Shannon & Luchs—Treasurer
- Victor Delano, Captain, U.S. Navy, retired—Secretary

Seven new Board members were elected for one- and three-year terms: Samuel Biddle, partner in the

investment firm of Thomas, McKinnon, Auchincloss, & Kohlmeyer; William C. Bryant, Deputy Editor at *U.S. News & World Report*; Al Hackl, President of Colortone Press and Acropolis Books; Albert J. Jones, Associate Professor of Marine Science at the University of the District of Columbia; Stanley R. Mayes, Assistant to the President and Sales Director of the Kiplinger Washington Editors, Inc.; Monica J. Morgan, Manager of Membership Services at the American Film Institute; and Joseph Y. Ruth, Director of Admissions at George Washington University.

Current Board members elected for second terms of three years were: Dr. Edward G. Boehm, Jr., Director of Development for American University; Captain Victor Delano, U.S.N. (retired); and Sally S. Tongren, House Guide for the Friends of the National Zoo.

After the election, Dr. Hosmer paid special tribute to those directors going off the Board who had played important roles over the years in assuring FONZ successes. They included Second Vice President and Education Chairperson Nancy Porter; past Presidents Peter C. Andrews and Timothy V.A. Dillon; and long-time directors Theodore Babbitt and Donna Grosvenor.

BOOK NEWS

All About Gorillas

Melanie Bond
Keeper, Small Mammals and Great Apes

Michael F. Murphy, Ph.D. Gorillas are Vanishing Intriguing Primates (CA: Michael F. Murphy), 1978.

David P. Willoughby. All About Gorillas (South Brunswick & New York: A.S. Barnes & Co.; London: Thomas Yoseloff, Ltd.), 1978. \$19.95.

Gorillas are Vanishing. Intriguing Primates fascinated me, especially since I played a small part in its creation. Several years ago the National Zoo received a survey from Dr. Murphy, asking for information about our gorillas, which our Primate Unit personnel completed and returned—encouragingly, primate units from many other zoos did likewise. The results of this survey, combined with Dr. Murphy's extensive personal knowledge of the subject, make a delightful little book.

One of the book's most important facets is its treatment of gorillas as individuals, both in the thumbnail biographical sketches he gives them, and in the excellent photographs accompanying the book, which are credited to Mrs. Murphy.

Of particular note are the three photos on page 66: none other than NZP's Nikumba, Tomoka, and Femelle. Interestingly enough, these

three gorillas served as an inspiration. "It was watching the playful antics of Nikumba, Femelle and Tomoka . . . which greatly stimulated my curiosity to obtain a better understanding of these intriguing primates."

Of special significance is the chapter on "Ailments and Afflictions," which contains an easily-understood discussion of gorilla health problems. This is a fascinating subject, especially to those who are interested in the great apes' close relationship to human beings. It is surprising how many health problems we share with the great apes.

Dr. Murphy's enthusiasm and love for gorillas is contagious. Reader, beware: You may find yourself caught up, too. And even those who are not infected must certainly appreciate the dedicated efforts of a man who, independently, compiled, published, and marketed this marvelous book.

For readers who have contracted the "gorilla bug" and want to learn more about these animals, David P. Willoughby's book *All About Gorillas* could be the answer. A larger, more detailed volume than Murphy's, with more photographs, maps, and drawings, this book is both more impressive and more technical. Much of the information provided has a definite anthropological slant. There are chapters on chimpanzees and orangutans; there is a comparison of the "three higher apes" and human beings; there is even a chap-

Kumba and her 10-month-old daughter, Kowali. Kumba is the first gorilla to have been born at the Lincoln Park Zoo.

ter on "Bigfoot." Willoughby feels that Bigfoot is perhaps a descendant of the fossil primate "Gigantopithecus"; if it is, " 'the largest living primate' can no longer be considered the gorilla, but rather must be recognized as the evidently much larger hominoid species — still known only indirectly — called Sasquatch or Bigfoot" (p. 31).

There is some overlap of ma-

terial between these two books: profiles of famous gorillas, information on gorilla reproduction and social structure, and some early history of our knowledge of gorillas, are, for example, included in both. But each book has unique information to offer; and both are worthy of inclusion in any primatologist's library, whether that primatologist is an amateur or a professional.



Calendar of Events

JANUARY

- 8 (Monday)
FONZ Photo Contest Begins.
Prizes include cash gift certificates and outstanding books on photography.
- 13 (Saturday)
Free tour of the Zoo-10:00 a.m.
For members 13 years of age and older. Members 15 and under must be accompanied by an adult. On this specially designed tour, FONZ guides will explain the unique characteristics of feet in cats, primates, small mammals, and birds.
- 15 (Monday)
Audubon Lecture
"Where Eagles Soar." George Blau, photographer.
Using photographs he took at one-week intervals, Dr. Blau will dramatize the growth and development of the golden eagle of Wyoming from beautiful downy chick, through scrawny adolescence, and into magnificent maturity.
- 20 (Saturday)
Winter classes begin.
Animal Identification; Animal Communication; Coping with Winter; Animal Collage; Survey of Primates.

For more details on any of the above events, call the FONZ membership office at 232-7700.

21 (Sunday)

Winter Tracking Safari

Tracking animals through the snow of the Shenandoah National Park provides an adventure-filled day for the entire family.

FEBRUARY

- 19 (Monday-Washington's Birthday celebrated)

Audubon Lecture

"Butterfly Magic." Michael G. Emsley, Professor of Biology, George Mason University.

Although a butterfly's brain is no bigger than the head of a pin, it is amazingly complex. Using beautiful slides in illustration, Dr. Emsley will explore the mysterious life of these jewel-bright insects — and their vital importance to the world.

CALIFORNIA WHALE-WATCH CRUISE **March 8 - March 19, 1979**

One of the most exciting and comprehensive wild-life trips ever sponsored by FONZ. From a ship, from skiffs, from shore, travelers will be able to observe at close range the migratory and lagoon activities of the California gray whale. The expedition also includes visits to several of the offshore islands of Baja, California; the San Diego Zoo; and the world-famous Wild Animal Park. Contact the Office of the Executive Director of FONZ for information and reservations at 232-7700. The expedition is limited to 20 persons, so don't delay!

How Wild Can You Get?

Give your friends an extra-special gift this year—a membership in FONZ, the wildest club in town.

It's a meaningful way to support wildlife conservation while giving pleasure to someone you care for.

FONZ sponsors Zoo programs in education, research, and conservation. And in addition, we plan in 1979 to continue our own special programs, publications, classes, films, lectures, trips, and much, much more.

While you're at it, consider increasing your own support by becoming a patron, sustaining member, or contributing member of FONZ. FONZ is a private, non-profit membership organization; we do not receive government funds. The dollars you give will let us expand our Zoo efforts in education, research, and conservation of endangered species. (Your donation is, of course, tax-deductible.)

It'll be a wild, wild Washington in 1979—share the excitement with FONZ!



I want to give a gift to FONZ! Here's the kind of membership I'd like to have:

- | | | |
|---------------------------------------|---------|--|
| <input type="checkbox"/> Contributing | \$25 | <input type="checkbox"/> I do not wish to change my membership status, but I do wish to contribute \$ _____ to FONZ. |
| <input type="checkbox"/> Sustaining | \$50 | |
| <input type="checkbox"/> Patron | \$100 | |
| | or more | |

Name: _____
Street: _____
City: _____ State: _____ Zip: _____
Home Phone: _____ Office Phone: _____

☐ My check for \$_____, payable to FONZ, is enclosed.

Yes! I want to share FONZ with a friend. Send a gift membership in my name, _____, to:

Name: _____
Street: _____
City: _____ State: _____ Zip: _____
Home Phone: _____ Office Phone: _____

Type of Membership (check one):

- | | | | |
|---|------|---------------------------------------|---------------|
| <input type="checkbox"/> Family* | \$25 | <input type="checkbox"/> Senior | \$10 |
| <input type="checkbox"/> Junior* (3-16) | \$5 | <input type="checkbox"/> Contributing | \$25 |
| <input type="checkbox"/> Individual | \$12 | <input type="checkbox"/> Sustaining | \$50 |
| <input type="checkbox"/> Couple | \$18 | <input type="checkbox"/> Patron | \$100 or more |

*Children's Names & Birthdates (Month & Year):

Your Name: _____
Your Address: _____

☐ My check for \$_____, payable to FONZ, is enclosed.



at the
National
Zoological Park
Washington, D. C. 20008

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